11: India G-4,5 (1960-1961) 1962 AWll Kerala AWll

Forest Roads

4.57 Although in respect of overall position regarding forest roads, Kerala is comparatively better off and accessibility is quite good, there are some remote areas for which new roads are required. Opening up of these areas through forest roads would permit tapping of certain pockets of forest resources uptil now lying untapped. Some of these important roads which have been suggested for being taken up during the Third Plan are :

(a) *Roads from Dhon to Palamalai*—to tap the Chenat Nair reserved forests and to make Palamalai a summer resort.

(b) *Extension of the Silent Valley roads to the borders of the Nilgiris district*—to tap the rich resources of the Silent Valley reserved forest and the improvement of its existing natural regeneration.

(c) *Construction of a road from Nelliampathy Parambikulam Tellikkal.* This will make Sungam and Parambikulam Ranges accessible through the Kerala territory only. At present, the State has to depend on the goodwill of the Madras Forest Department for the extraction of forest produces.

The cost of constructing these roads is estimated to be Rs. 50 lakhs.

Training Facilities

4.58 The programme for raising forest plantations can be implemented smoothly only if there is adequately trained personnel to deal with the several technical problems. At present the staff is generally deputed to Forest Colleges at Dehra Dun and Coimbatore for training. These colleges cannot, however, meet the requirements of training lower grade staff. It is, therefore, suggested that in view of the importance of forestry to Kerala, this State should have a separate training institute of its own. This institute, may be located at Peechi.

Resource Survey

4.59 For proper planning of forest-based industries, the exact extent of availability and location of different types of forest resources should be known. In the past, development has been impeded by industries being allotted more areas than was warranted by their capacity. This has thwarted development of other industries which could have utilized the surplus raw material from the forest coupes. These defects can be remedied only if a full inventory of forest resources is available. Uptil now only a survey of bamboo areas has been carried out. During the Third Plan a full resource survey should be carried out.

ESTABLISHMENT REQUIRED FOR THE DEVELOPMENTS PROPOSED

4.60 If the development programmes proposed in this report are to be carried out, strengthening of the Forest Department will be necessary. Appointment of

11: India G-4, 5 (1960-1961) 1962 AWll Kerala AWll

8.13 The programme of investment in the rail facilities in the State was estimated to cost Rs. 1.015 crores during the Second Plan. Till early 1960 it seems only about one-third (34.3 %) of this amount had been spent. Major items of expenditure were on re-railing of track in the Shoranur-Calicut section, provision of metre gauge facilities at Cochin harbour and conversion of a number of stations into crossing stations and improvements therein. But progress was not substantial on account of non-arrival of materials, etc. Line capacity works were undertaken on the Punalur-Quilon section, increasing the number of trains from 11 to 12 and the net ton miles by 1.24 million. Additional loops were provided at Calicut, which helped to reduce detention of trains at adjacent stations. Additional platforms, goods sheds and marshalling yards were provided at Quilon to receive and assist the traffic on the new metre gauge link with Ernakulam. Engineering and traffic surveys for a new line from Tellicherry to Mangalore *via* Coorg were completed. Proposals relating to alignments between Trivandrum and Tirunelveli *via* Nagercoil and Cape Comorin are stated to be under consideration of the Railway Board.

ROAD NETWORK

8.14 The total road mileage in the State at 10,739 miles (Table 38) exceeds the figure of the mileage calculated in accordance with the Nagpur Plan Formula. The State has 71.6 miles for 100 square miles, as against 26 miles, derived from the Nagpur Plan Formula. However, the road system is not without certain shortcomings, such as those resulting from the uneven distribution of the total mileage among different districts and regions of the State (Table 39). Calicut district and, in a lesser degree, Trichur district have fared rather poorly whether judged in relation to the extent of area served or mileage per 100,000 of population. There are considerable regional disparities between Malabar and Travancore-Cochin.[1] While the former has 61.9 miles of road per 100 square miles of area and 73.5 miles of road per 100,000 of population, the corresponding figures for the latter are 79.6 and 65.2 miles respectively. The area north of Alwaye-Munnar road presents an unsatisfactory situation in respect of road mileage. As Malabar is also relatively not so well-endowed in respect of inland water transport communications the comparative deficiency of road mileage is all the more significant in this area.

8.15 A number of factors reduce at present the maximum economic usefulness of the State's comparatively high road mileage. Among these may be mentioned (*a*) the absence of bridges on many roads (*b*) the weakness of existing culverts and bridges (*c*) poor surfacing (*d*) narrow width even on high traffic density routes (e.g. Trichur-Vadakkancheri, Malapuram-Hitchcock memorial in Calicut) (*e*) tortuous alignments, e.g., along Aroor-Ernakulam route (*f*) delays to traffic owing to reliance on road-cum-rail bridge (Ankamali-Trichur section of the Highway) and (*g*) saturation

[Text continues on p. 130]

[1] Particulars are set out in Table 6 of the NCAER appraisal report on Transport in Kerala.

[Tables 38 & 39, appearing on p. 295 of the text, have not been proceeded -- Analyst]

11: India G-4, 5 (1960-1961) 1962 AWII Kerala AWII

the services, which have declined from Rs. 23.8 lakhs in 1956-57 to Rs. 17.4 lakhs in 1959-60.

8.24 The allotments during the Second Plan for the construction of roads and bridges were Rs. 2.146 crores and Rs. 1.932 crores respectively. The expenditure on roads and bridges in the first four years of the Plan amounted to Rs. 2.871 crores and Rs. 1.041 crores. The expenditure on maintenance in the three years 1956–59 was about Rs. 2.956 crores. The achievement in respect of road construction, improvement and upgrading and construction of major bridges lagged seriously behind targets in the fourth year of the Second Plan.

8.25 The Central Government's expenditure on the construction and improvement of national highways was as follows:

1958-59	Actual	Rs. 11 lakhs
1959-60	Revised Estimate	Rs. 32 lakhs
1960-61	Budget Estimate	Rs. 55 lakhs

8.26 The number of buses and trucks rose sharply in the State during the four years of the Second Plan; but particulars are lacking regarding the amount of public or private investment on vehicles. The nationalized passenger services planned to add 460 buses to the fleet, 300 for rehabilitation and new 160 for operating on a stretch of 400 miles of roads. If achieved, this would involve an investment of the order of Rs. 2 crores. Between 1956-57 and 1958-59 the capital at charge rose by Rs. 78.4 lakhs only.

THE INLAND WATERWAYS

8.27 The inland waterways of the State comprise: (*a*) the west coast canal system, stretching continuously except for a land-locked break between Azhikkal and Badagara (29.5 miles) a distance of over 347 miles from Trivandrum to Hosdurg; (*b*) cross canals, 387 miles long, mostly in the south of the State serving the commercial region in the midlands, and about 521 navigable miles in its various rivers. The Ashtamudi and Vembanad lakes provide extensive navigation facilities for traffic to and from Alleppey, Kottayam, Quilon and Cochin.

8.28 The waterways present a variety of problems though none of them are insuperable. These should be tackled systematically as the waterways promise superior economic advantages. Natural limitations arise from weather and rainfall; most rivers are navigable upto their middle reaches only during the period of the monsoons. In many places they are narrow and shallow (e.g., on the Trivandrum-Quilon route). Dredging is often insufficient and even the dredgers are unsuitable for dredging the narrow sections. Tugging services are required in hazardous areas, e.g., Pathiramanal-Munroe light area in the Vembanad lake. Bridges are often low, as in Varkala and on the Trivandrum-Quilon route, and they do not permit operation, particularly of passenger boats. Landing places have not been provided in many places, and where they are, they are not maintained in proper condition for use. A great drawback of water transport is insecurity and pilferage of the cargo. The

11: India G-4, 5 (1960-1961) 1962 AWII Kerala AWII

upon the maintenance of navigability in the waterways, and removal of a number of handicaps listed in para 8.28.

CONCLUSIONS

8.47 The conclusions that follow from the general traffic pattern outlined above are (*a*) accessions to traffic may be expected just in those areas and routes where it is strikingly high already (e.g., Cochin-Shoranur), (*b*) spare transport capacity on many railway sections will be absorbed, (*c*) the road, rail and waterway links to the ports may need improvement, and (*d*) further, the road transport capacity and terminal facilities should be increased to meet mounting demands.[1]

8.48 The railways have an important role to play, mainly in inter-State traffic and in helping the work of the ports. In the Third Plan, an investment of Rs. 1.2 crores i.e., of the same order as proposed and accepted but unfulfilled in the Second Plan may be necessary, mainly in connection with increase in the line capacity on vital routes (e.g., Cochin-Shoranur). If traffic and engineering surveys establish the economic feasibility of Trivandrum-Nagercoil-Tirunelveli line, it may be considered for the Fourth Plan.

8.49 As the eastern regions of the State are untouched by the Railways and are likely to remain so, these have to rely mainly on road transport. It is necessary to extend, bridge, and improve the road network in these areas till at least 50 per cent of the targets set for 1981 are achieved by 1971[2]. The expenditure will be about Rs. 17 crores in the Third Plan and Rs. 26.3 crores in the Fourth Plan.

8.50 The Third Plan programme for roads and bridges in the State will cover the development of arterial routes and cross-roads in the north of the State (Rs. 4.32 crores), improvement of arterial routes in the south including the opening of Thenmala-Thekkadi road (Rs. 1 crore), the Vypeen Island Scheme (Rs. 1 crore), construction and improvement of about 3,600 miles of district and village roads (Rs. 5.996 crores) and the construction and improvement of 122 major and 584 minor bridges and culverts. Schemes spilling over from the Second Plan and costing Rs. 1.62 crores will also have to be completed. It is desirable to institute a road fund in the State to finance road development. The particular areas and routes where extension and improvements are possible in the next five years are set out in Table 43. The physical targets are indicated in Table 44.

8.51 The number of trucks will need to be considerably augmented to cope up with the anticipated demands of traffic. The investment on trucks may amount to about Rs. 11 crores in the Third Plan and Rs. 10.29 crores in the Fourth Plan. The number of passenger buses may require to be increased by 2,400 in 10 years. About 4,600 buses may have to be replaced by the end of 1971. This would entail an expenditure of Rs. 20.5 crores. The State's Third Plan envisages the continuance of the

[1] Passenger traffic is certain to go up with rising population and concentrations of industry and trade at such centres as Trivandrum, Quilon, Kundara, Cochin, Ernakulam, Trichur, Palghat, Calicut and Cannanore but no estimate of the passenger service demands has been made here.

[2] Targets for 1981 as per formula of the Chief Engineers' Plan, Bombay (1960).

[Table 44, appearing on p. 298 of the text, has not been processed -- Analyst]